

AKAI SERVICE MANUAL

S1100



MIDI STEREO DIGITAL SAMPLER

MODEL S1100

SPECIFICATIONS

| | | | |
|---------------------------------------|--|--------------------------------|--|
| Display | Backlit 320 characters/240 × 64 graphic LCD | AES/EBU (Digital out) | RS-422 level |
| Disk drive | 3.5" dual density drive, 2Mbyte capacity (2HD), 1Mbyte capacity (2DD) | Connectors | |
| Memory | 2Mbyte expandable to 32Mbyte | Front panel | REC INPUT CANON PLUG x2 (L ch., R ch.) MIC PLUG x2 (Lch., R ch.) |
| Data format | 16 bit linear | Rear panel | STEREO HEADPHONE x1 STEREO OUT x2, EFFECT SEND x1, ASSIGNABLE MIX OUT x8, EFFECT RETURN x2, FOOT SW x1, MIDI IN x1, MIDI OUT x1, MIDI THRU x1 |
| Maximum number of samples | 200 | Power requirement | AC 100 V, 50/60 Hz for Japan AC 120 V, 60 Hz for USA and Canada AC 220 V, 50 Hz for Europe except UK AC 240 V, 50 Hz for UK and Australia |
| Maximum number of programs | 100 | Power consumption | J:32W. A:50W. E,V:32W |
| Sampling rates | 44.1/22.05 kHz, switchable | Dimensions | 483(W) × 133(H) × 425(D)mm (EIA 3U size) |
| Sampling time (unexpanded memory) ... | 23.76 sec. (mono/sampling rate 44.1 kHz) 47.52 sec. (mono/sampling rate 22.05 kHz) 11.88 sec. (stereo/sampling rate 44.1 kHz) 23.76 sec. (stereo/sampling rate 22.05 kHz) | Weight | 10.1kg |
| Frequency response | 20 Hz to 20 kHz (sampling rate 22.05 kHz) 20 Hz to 10 kHz (sampling rate 22.05 kHz) | Options | |
| Pitch shift | Interpolation and decimation digital algorithm (24 bit algorithm/custom LSI) ±2 octave changeable, 1 cent/step | EXM005 | Memory expansion board(2M bytes) |
| Filter | Digital moving low pass filter (-18 dB/oct) | EXM008 | Memory expansion board(8M bytes) |
| Envelope generator | 2 sets/digital ADSR | IB104 | AES/EBU Digital audio interface board |
| Levels/impedance | | BL1000 | 3.5 inch 2HD blank disk |
| REC INPUT | HI: -58 dBm | | |
| (L. R./MIC PLUG) | MID: -38 dBm LOW: -18 dBm | | |
| STEREO OUT (L/mono & R CH) | -5dBm/600 ohms | | |
| EFFECT SEND | -5dBm/600 ohms | | |
| CH 1 to CH 8 OUT | -5dBm/600 ohms | | |

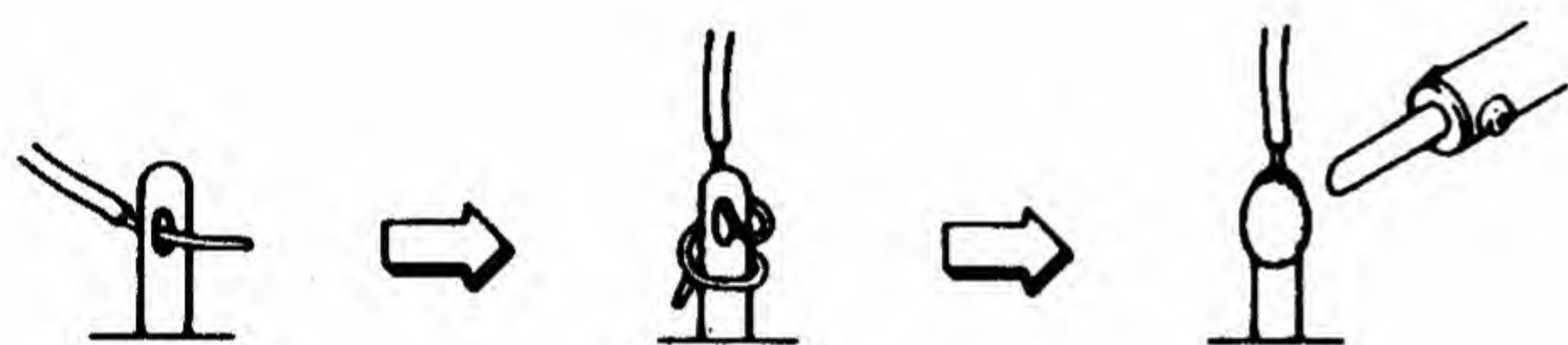
| | |
|-----------------------------|---|
| Standard accessories | |
| Sound library disk | 4 |
| AC cord | 1 |
| Operator's manual | 1 |

* For improvement purposes, specifications and design are subject to change without notice.

★ SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts identified by the \triangle (*) symbols are critical for safety. Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation.
These must also be replaced only with specified replacements.
Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring note especially:
 - 1) Wires covered with PVC tubing
 - 2) Double insulated wires
 - 3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
 - 1) Insulation Tape
 - 2) PVC tubing
 - 3) Spacers (Insulating Barriers)
 - 4) Insulation sheets for transistors
 - 5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).

7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

SAFETY CHECK AFTER SERVICING

After servicing, make measurements of leakage-current or resistance in order to determine that exposed parts are acceptably insulated from the supply circuit.

The leakage-current measurement should be done between accessible metal parts (such as chassis, ground terminal, microphone jacks, signal input/output connectors, etc.) and the earth ground through a resistor of 1500ohms paralleled with a 0.15 μ F capacitor, under the unit's normal working condition. The leakage-current should be less than 0.5 mA rms AC.

The resistance measurement should be done between accessible exposed metal parts and power cord plug prongs with the power switch (if included) "ON". The resistance should be more than 2.2 Mohms.

★ INFORMATION

SYMBOLS FOR PRIMARY DESTINATION

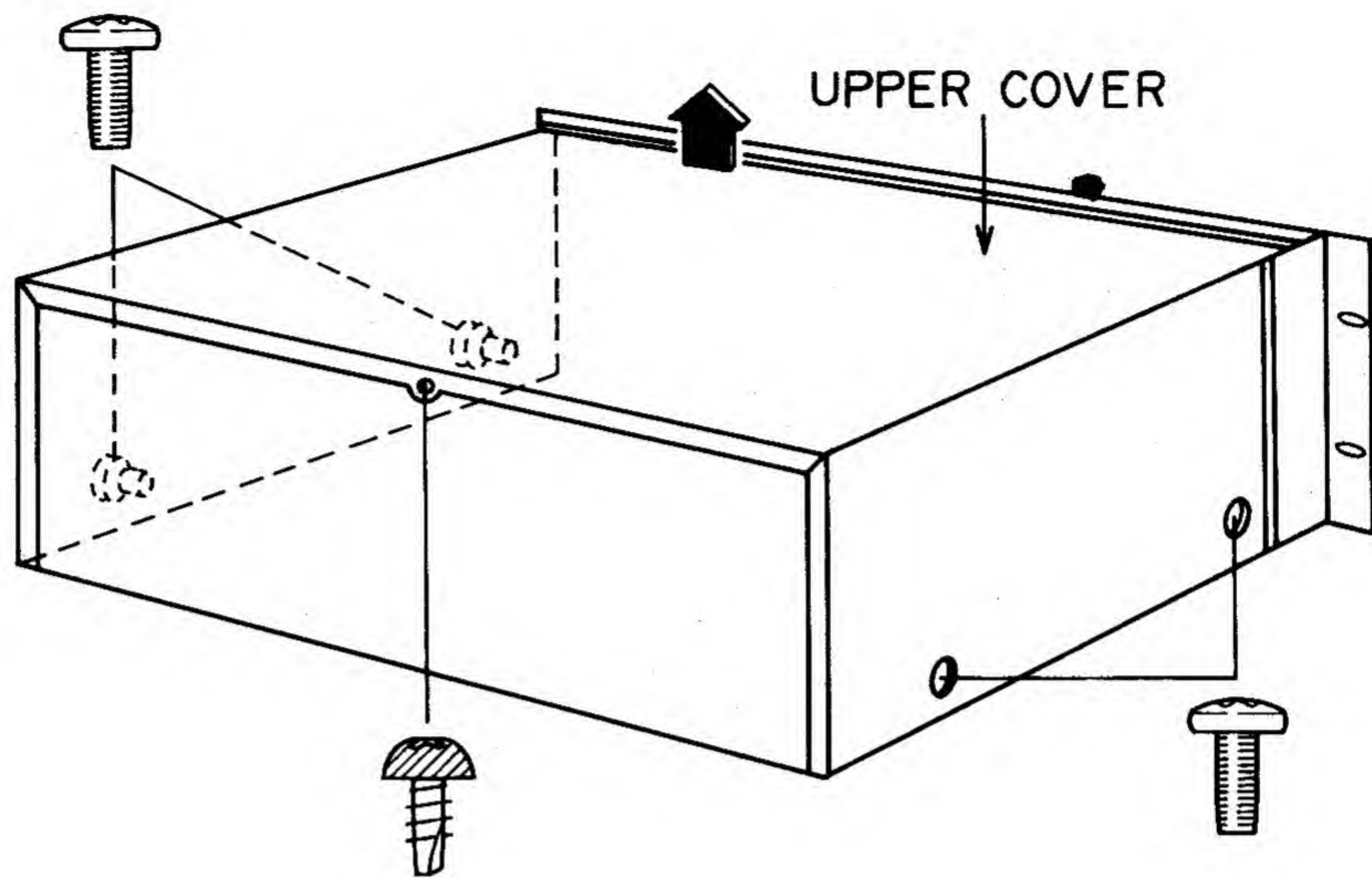
Alphabet indicates the destination of the units as listed below.

| Symbols | Principal Destinations |
|---------|------------------------|
| A | USA |
| B | UK |
| C | Canada |
| E | Europe (except UK) |
| J | Japan |
| S | Australia |
| V | W. Germany only |
| U | Universal Area |
| Y* | Custom version |

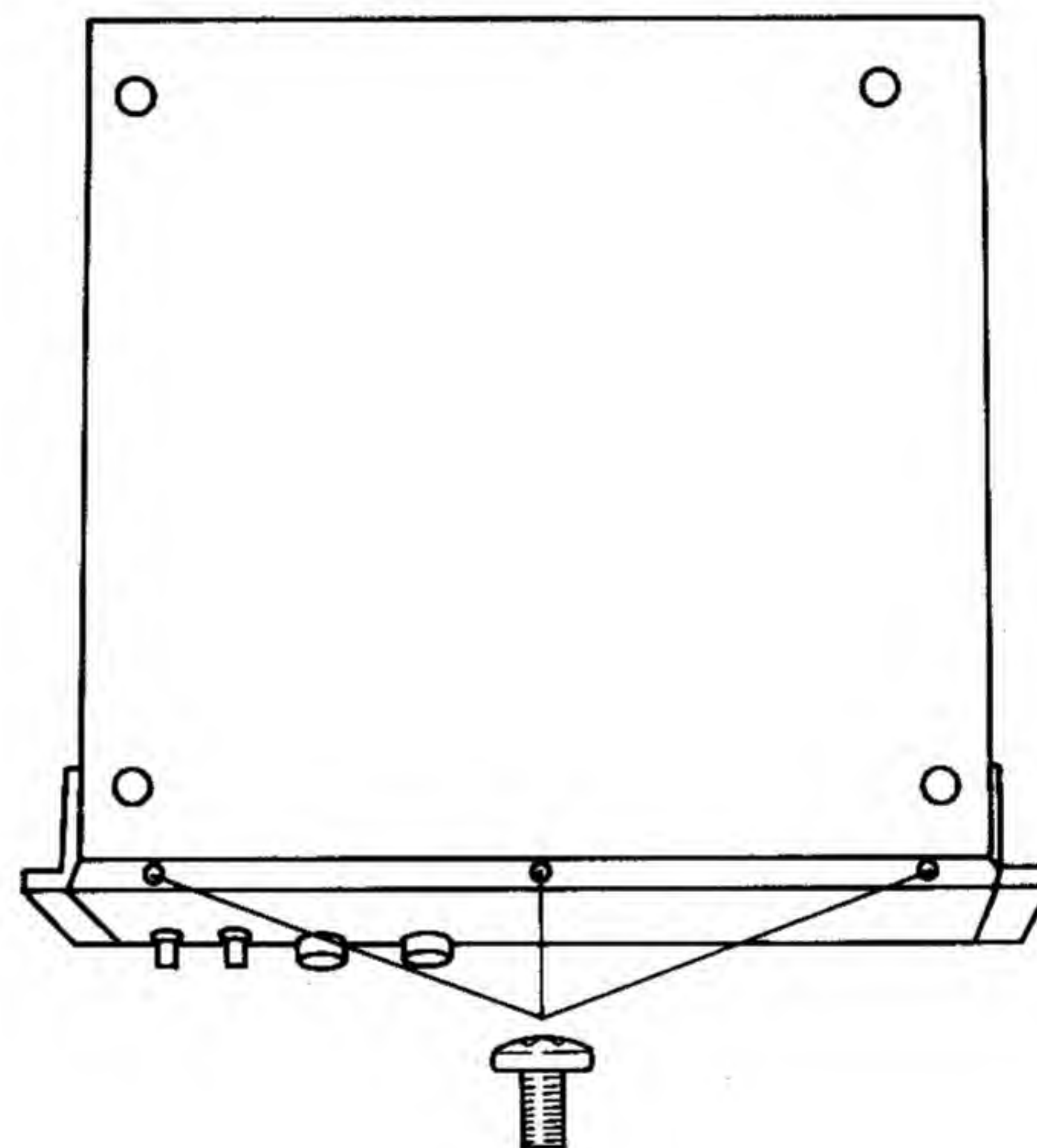
I. DISASSEMBLY

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the illustrations.
Reassemble in the reverse order.

1. Removal of UPPER COVER

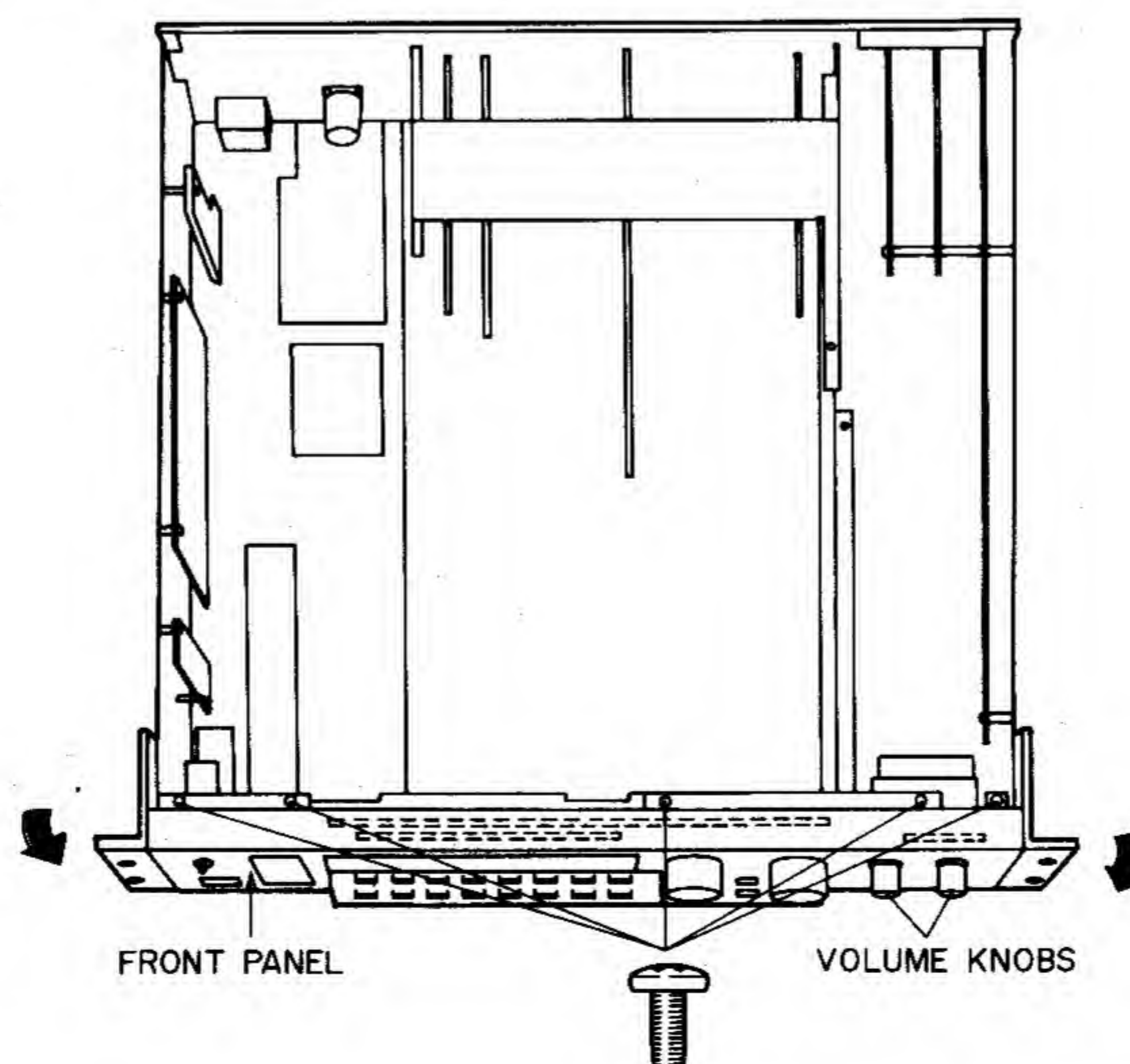


2. Removal of FRONT PANEL BLK



Bottom view

* Remove MAIN VOLUME KNOBS first, then remove the FRONT PANEL.



II. PRINCIPAL PARTS LOCATION

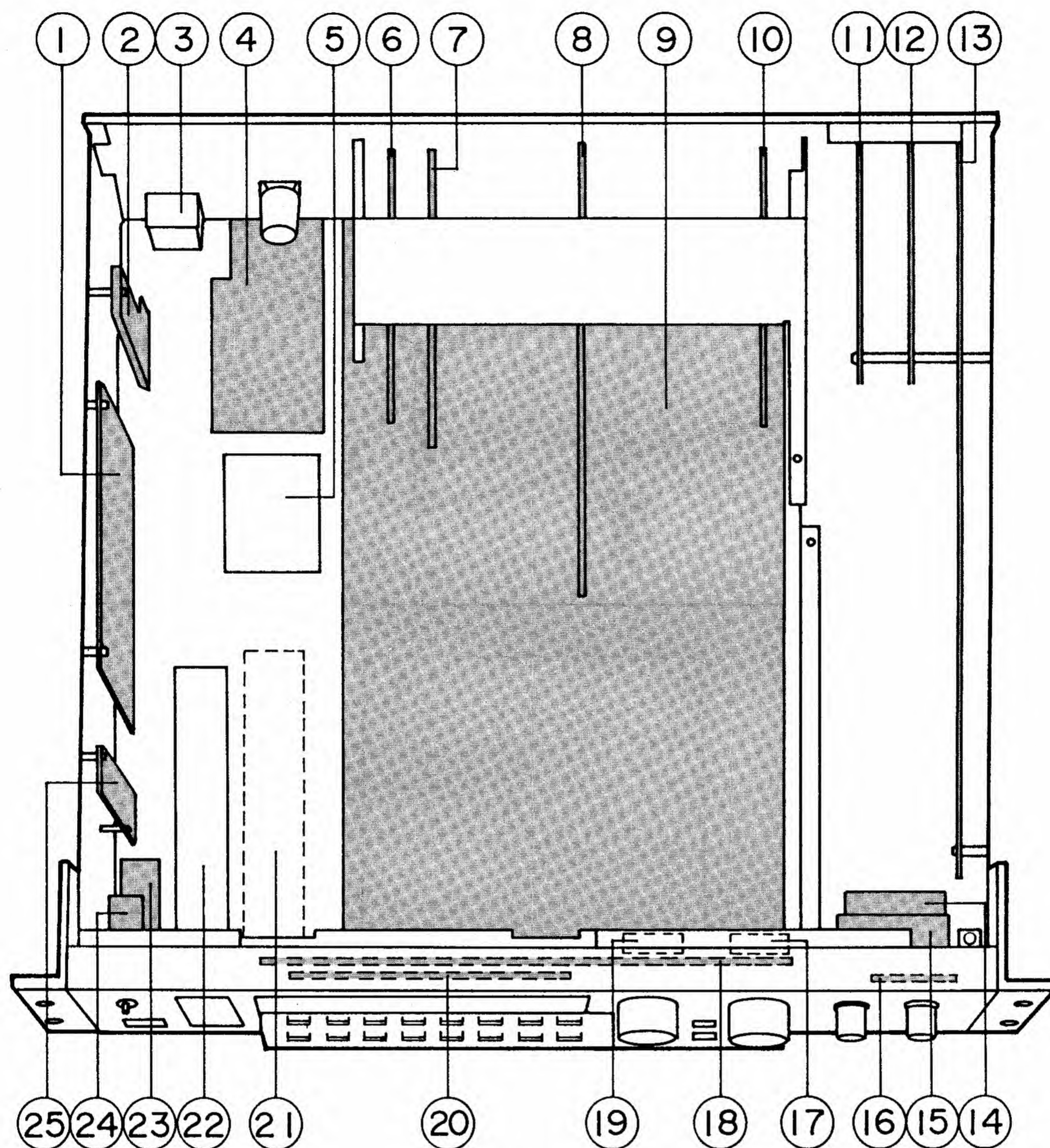


Fig. 2-1

- | | |
|----------------------------|-------------------------------------|
| 1. SWITCHING REGULATOR BLK | 14. INPUT JACK PCB |
| 2. FILTER PCB | 15. VR PCB |
| 3. AC INLET | 16. REC GAIN PCB |
| 4. POWER SUPPLY PCB | 17. ROTARY ENCODER (DATA) |
| 5. POWER TRANSFORMER | 18. PANEL PCB |
| 6. S1100 SCSI PCB | 19. ROTARY ENCODER (CURSOR) |
| 7. SMPTE PCB | 20. LCD BLK |
| 8. DSP PCB | 21. HARD DISK DRIVE UNIT (Optional) |
| 9. CPU PCB | 22. FDD BLK |
| 10. MEMORY PCB | 23. POWER SW PCB |
| 11. VOICE (2) PCB | 24. DISPLAY VR PCB |
| 12. VOICE (1) PCB | 25. INVERTOR PCB |
| 13. A D PCB | |

III. ELECTRICAL ADJUSTMENT

3-1. INSTRUMENT CONNECTION

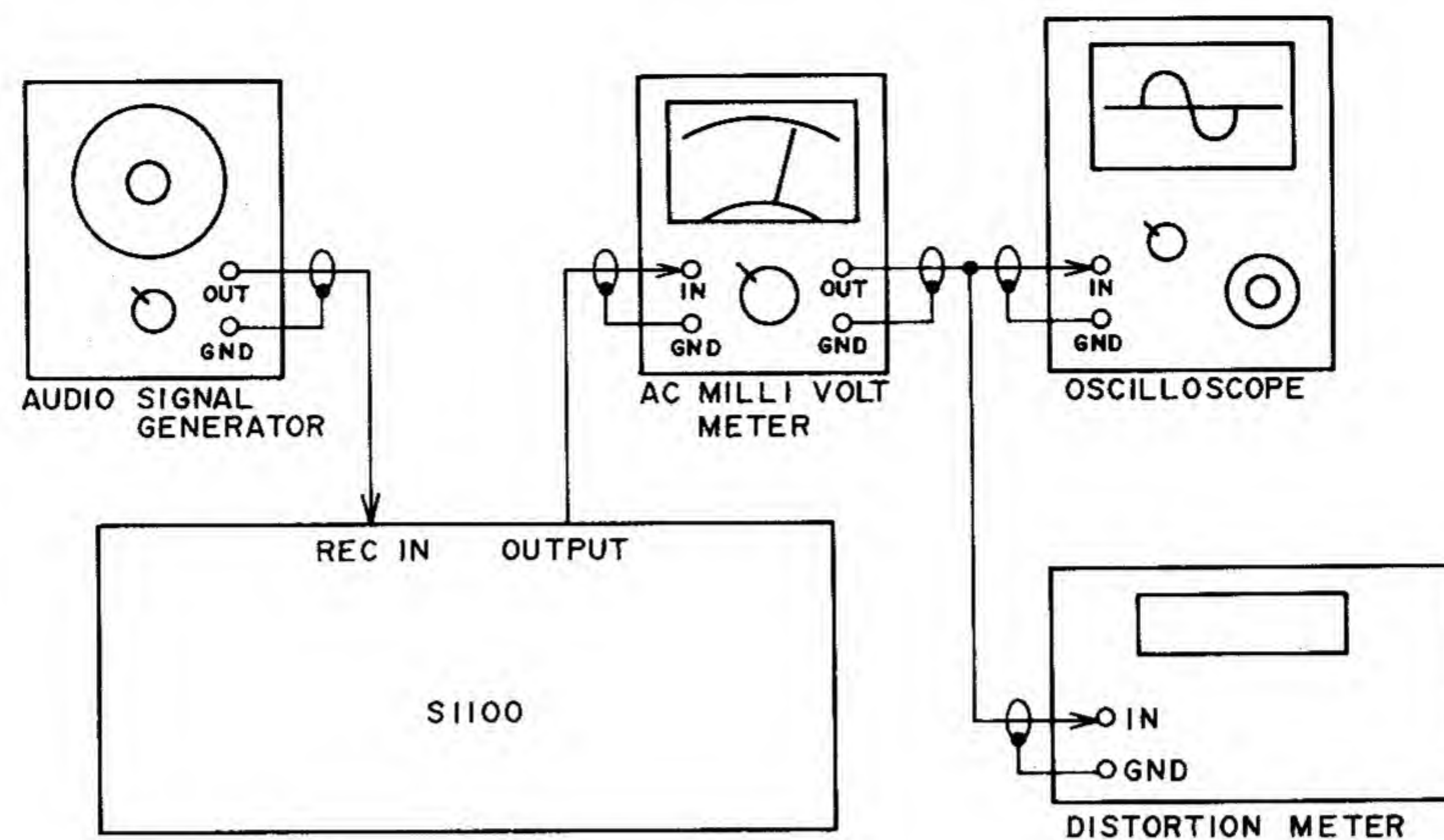


Fig. 3-1 Instrument connection

3-2. LOCATION OF ADJUSTMENT POINTS

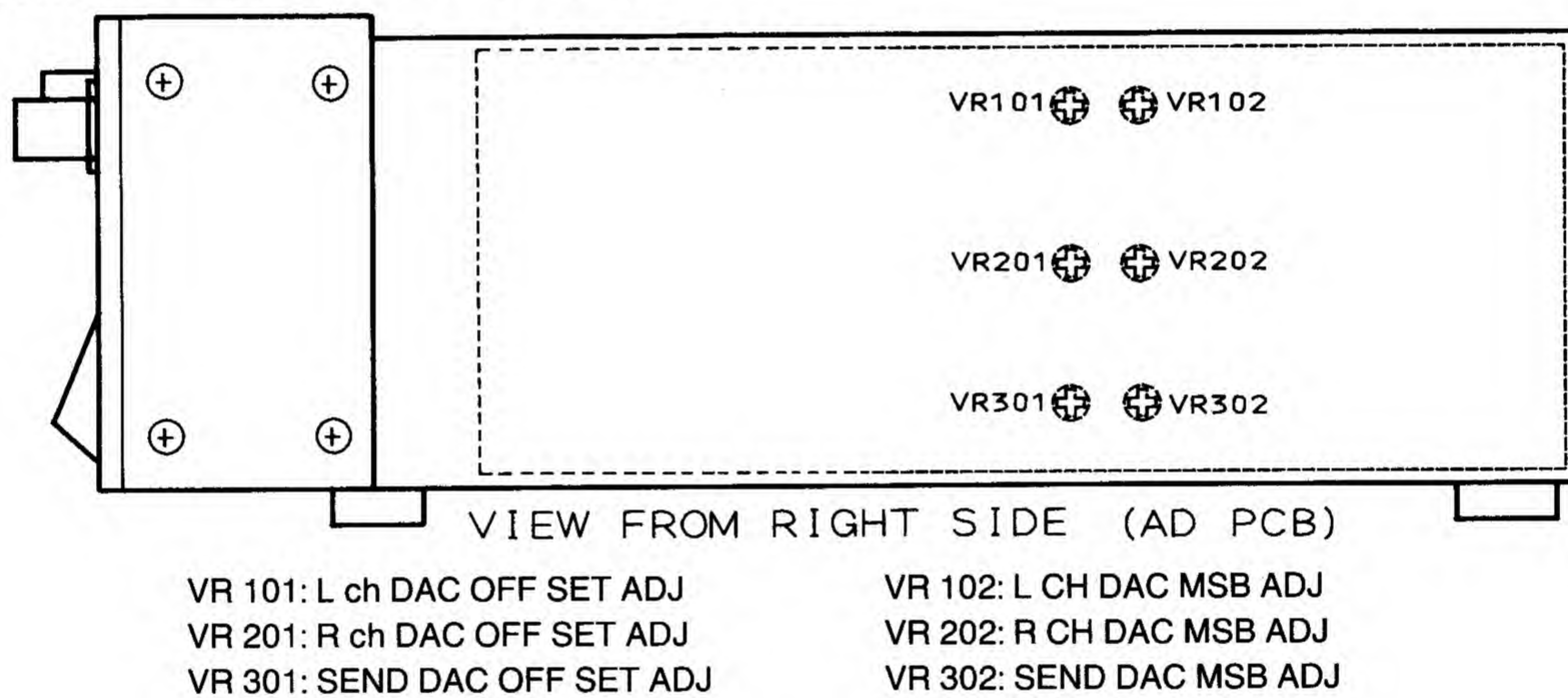


Fig. 3-2 View from right side

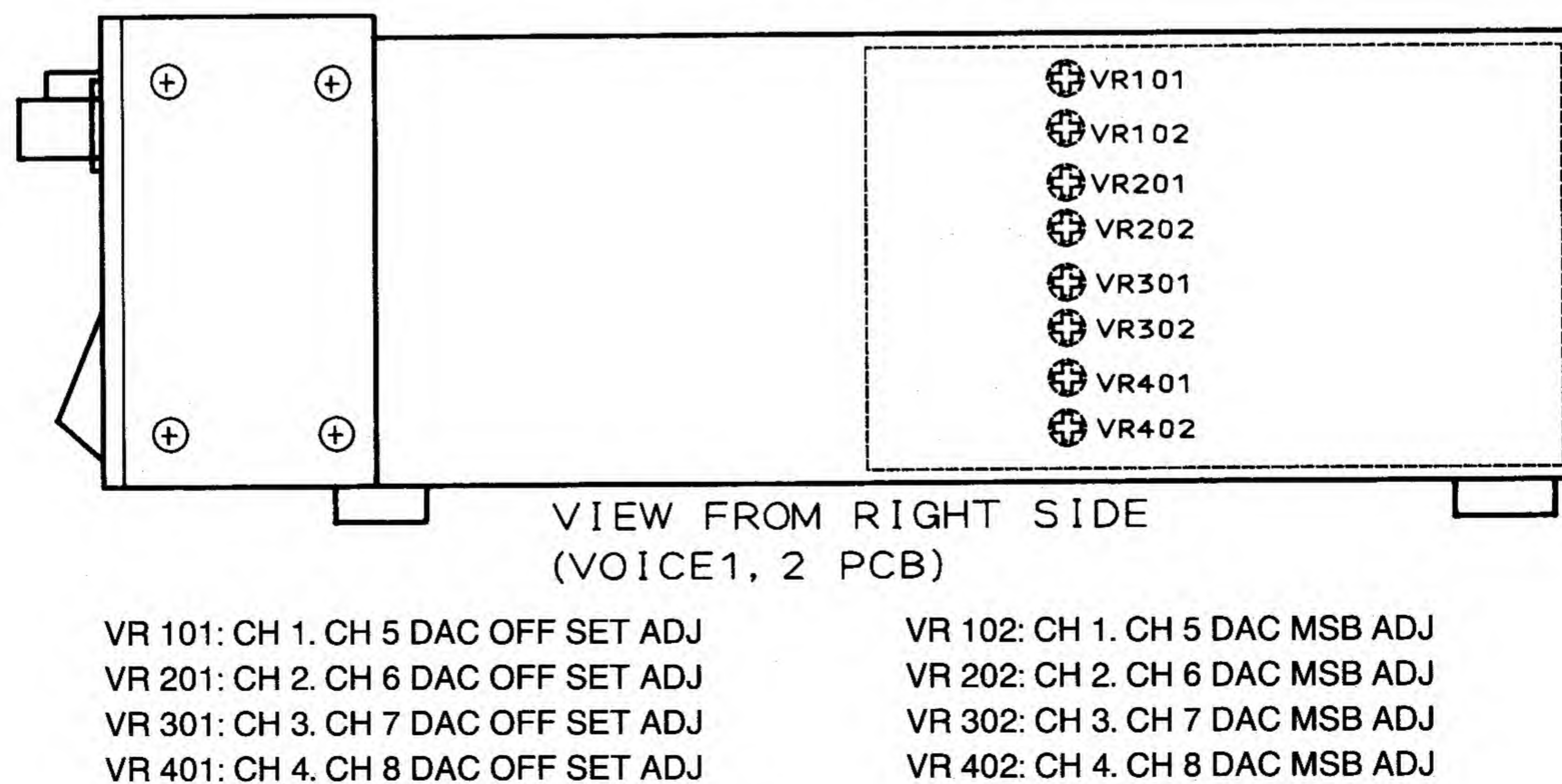


Fig. 3-3 View from right side

3-3. HARDWARE TEST

THE HARDWARE TEST MODE

* This test mode is used for inspecting the unit.

[HOW TO SET THE HARDWARE TEST MODE]

- 1) Turn on the power, press the "MARK/#" and "NAME" buttons at the same time (all red indicators will light), then press the "+/ <" button.
- 2) The following menu (refire to Fig. 3-4) will appear on the LC-display when the model S1100 is set to the HARDWARE TEST mode.

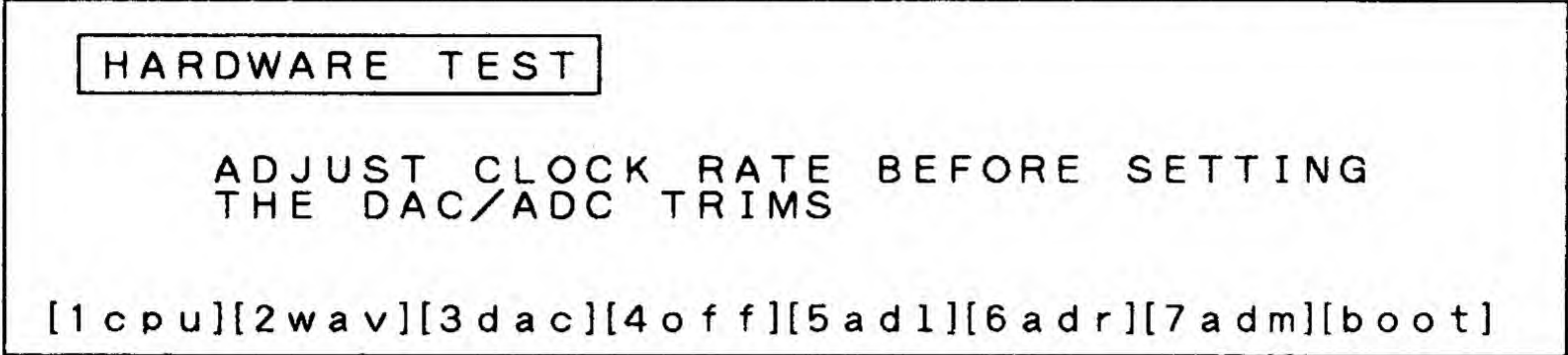


Fig. 3-4

[THE PROGRAM NUMBERS AND PROGRAM NAMES]

[HOW TO RELEASE FROM THE HARDWARE TEST MODE]

S1100 HARDWARE TEST

| PROG. No. | CONTENTS |
|-----------|------------------------|
| 1 | CPU MEMORY TEST |
| 2 | WAVEFORM MEMORY TEST |
| 3 | NOT USED |
| 4 | NOT USED |
| 5 | LEFT ADC OFF-SET NULL |
| 6 | RIGHT ADC OFF-SET NULL |
| 7 | NOT USED |

* During the HARDWARE TEST mode, press the "F8/H" button.

* Although displayed,the contents are disregarded. Fig.3-5

3-3-1. CPU MEMORY TEST

- 1) During the HARDWARE TEST mode, press the "F1/A" button. The following display will appear on the LC-display(refer to Fig. 3-6).

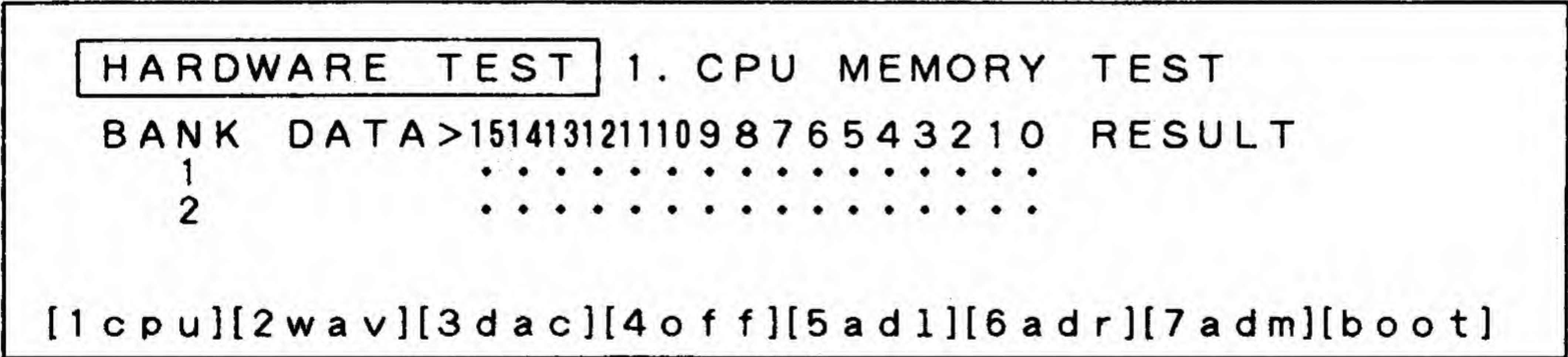


Fig. 3-6

- 2) A few second later, the LC-display will show the message "OK" as in Fig. 3-7. If the message "OK" does not appear on the LC-display, it means a malfunction in the memory circuit. In this case check the memory circuit and LSI.

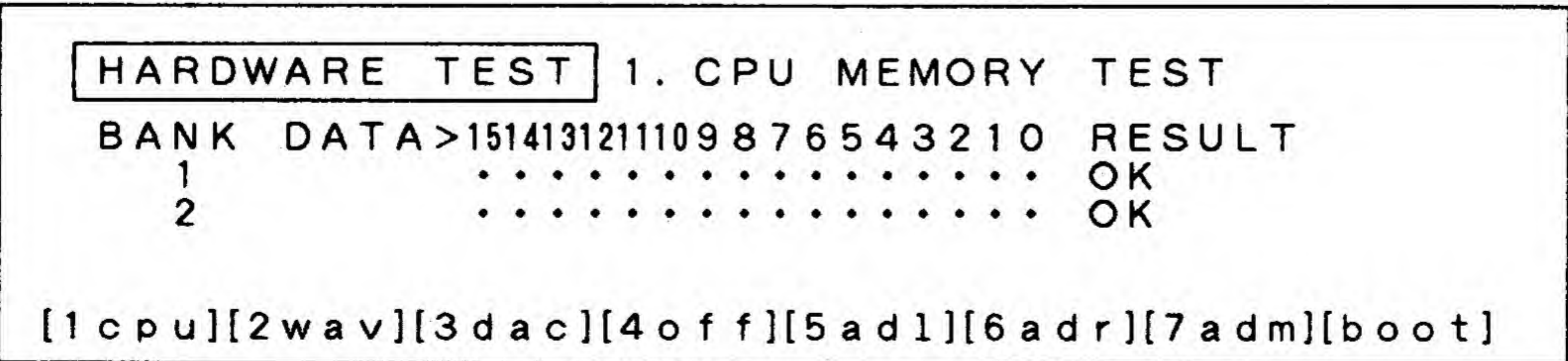


Fig. 3-7

3-3-2. WAVEFORM MEMORY TEST

- 1) During the HARDWARE TEST mode, press the "F2/B" button. The following display will appear on the LC-display(refer to Fig. 3-8).

```

HARDWARE TEST 2. WAVEFORM MEMORY TEST
BANK DATA>1514131211109876543210 RESULT
1          ..... testing 35sec
2          EEEEEEEEEEEEEEEEEEEEE
3          EEEEEEEEEEEEEEEEEEEEE
4          EEEEEEEEEEEEEEEEEEEEE
[1cpu][2wav][3dac][4off][5ad1][6adr][7adm][boot]

```

Fig. 3-8

- 2) After 35 seconds the LC-display will show the message as shown Fig. 3-9. If this message does not appear on the LC-display, it means a malfunction in the waveform memory circuit. Check the waveform memory circuit and LSI.

```

HARDWARE TEST 2. WAVEFORM MEMORY TEST
BANK DATA>1514131211109876543210 RESULT
1          ..... OK
2          EEEEEEEEEEEEEEEEEEEEE NO CARD?
3          EEEEEEEEEEEEEEEEEEEEE NO CARD?
4          EEEEEEEEEEEEEEEEEEEEE NO CARD?
[1cpu][2wav][3dac][4off][5ad1][6adr][7adm][boot]

```

Fig. 3-9

3-3-3. ADC OFF-SET NULL CONFIRMATION

- 1) During the HARDWARE TEST mode, press the "F5/E" button. The following display will appear on the LC-display(refer to Fig. 3-10).

```

HARDWARE TEST 5. LEFT ADC OFFSET NULL
SET MIN. REC. LEVEL, LOW GAIN, SHORT INPUTS
ADJUST LEFT INPUT OFFSET TRIM
TO ZERO THE OFFSET:-          0
                               |
                               +1
[1cpu][2wav][3dac][4off][5ad1][6adr][7adm][boot]

```

Fig. 3-10

- 2) Next, press the "F6/F" button. The following display will appear on the LC-display (refer to Fig. 3-11).

```

HARDWARE TEST 6. RIGHT ADC OFFSET NULL
SET MIN. REC. LEVEL, LOW GAIN, SHORT INPUTS
ADJUST RIGHT INPUT OFFSET TRIM
TO ZERO THE OFFSET:-          0
                               |
                               +1
[1cpu][2wav][3dac][4off][5ad1][6adr][7adm][boot]

```

Fig. 3-11

* Although the display instruct to adjust the OFF-SET TRIM, this is confirmation only. No adjustment is necessary.

3-4. DAC OFF-SET ADJUSTMENT

(PRECAUTIONS BEFORE ADJUSTMENT)

- For connection of test equipment refer to Fig. 3-1.
- Set the MAIN VOLUME to the maximum position.
- Set the REC LEVEL to the maximum position and the REC GAIN switch to the "MID" position.
- Let the unit warm up for at least 5 minutes before proceeding with the following adjustments.
- Be sure to connect the plugs to the L CH and R CH outputs, otherwise L-R mixed output will be obtained from both outputs.

3-4-1. DAC OFF-SET ADJUSTMENT

- 1) After turning the unit on, press the EDIT SAMPLE button. Next use the DATA knob to select "SINE," then press the [REC 2] F3/C button. Connect the audio signal generator to the LEFT input and sample a 1KHz sine wave. Adjust the signal level so that the output is -6dBm. Select "tim: s" with the CURSOR knob, then select "10.00" with the DATA knob. Next press the [ARM] F8/H button to sample a 1KHz tone.
- 2) Press the EDIT PROGRAM button, then press the [KGRP] F2/B button. Select "change number of KEYGROUPS" with the CURSOR knob, then select "12" with the +/-< button. Next select "note on sample COHERENCE" with the CURSOR knob and select "ON" with the DATA knob.
- 3) Press the [SLCT] F1/A button, then press the [OUT] F4/D button. Next select "loudness" with the CURSOR knob and press the ENT/PLAY button. Set the DATA knob so that the output from OUTPUT (L CH, R CH) is + 11dBm. Select "eft out" with the CURSOR knob, and 14% with the DATA knob only when adjusting the send level.
- 4) Press the ENT/PLAY button and adjust the VR101 (LEFT), VR201 (RIGHT) and VR301 (SEND) on the AD PCB so that DISTORTION is less than 1%.
- 5) Select "mono out" with the CURSOR knob. Use the DATA knob to select channels between CH1-CH8 and adjust the appropriate VR (refer to following list) so that the distortion of each channel is less than 1%.

On VOICE 1 PCB:

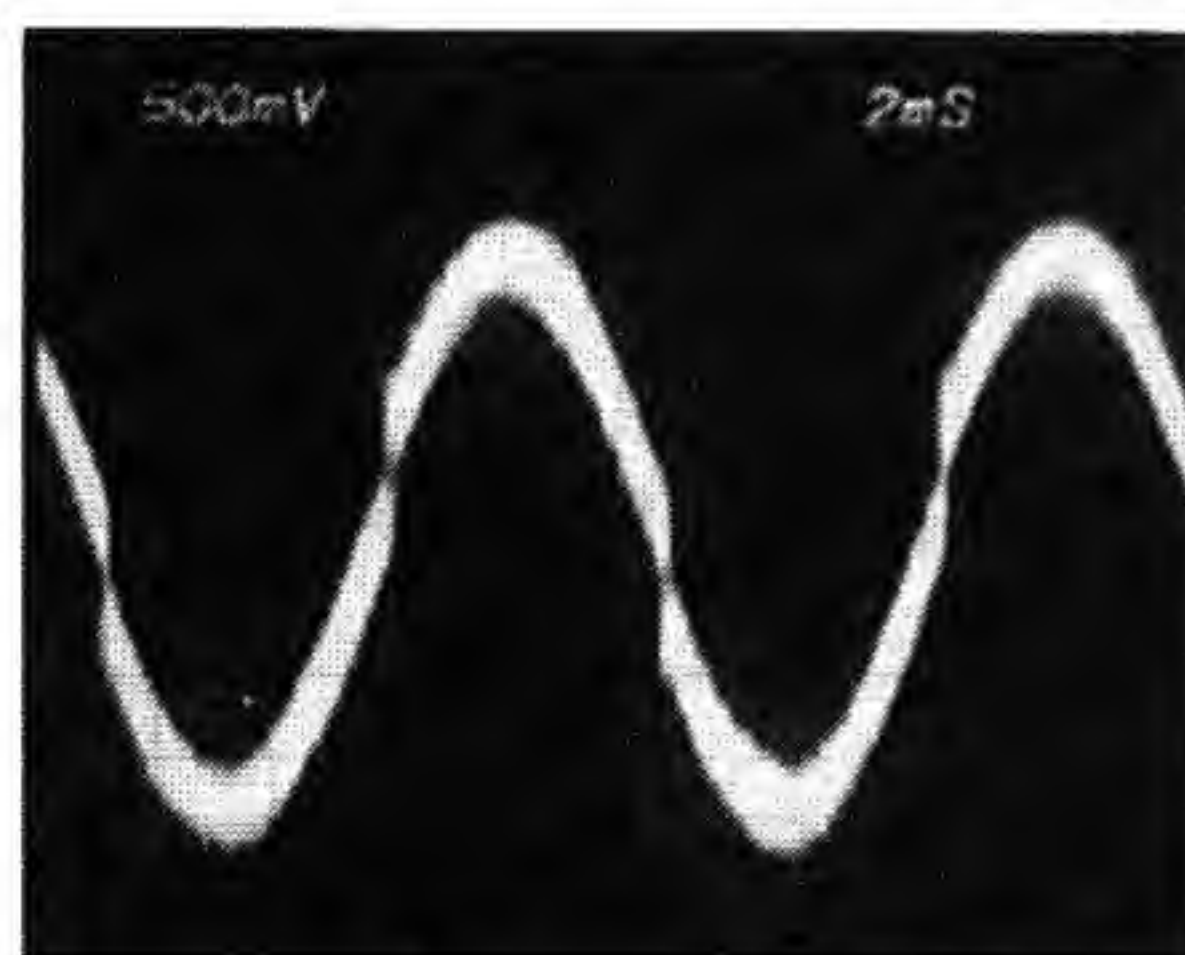
VR101 (CH 1)
VR201 (CH 2)
VR301 (CH 3)
VR401 (CH 4)

On VOICE 2 PCB:

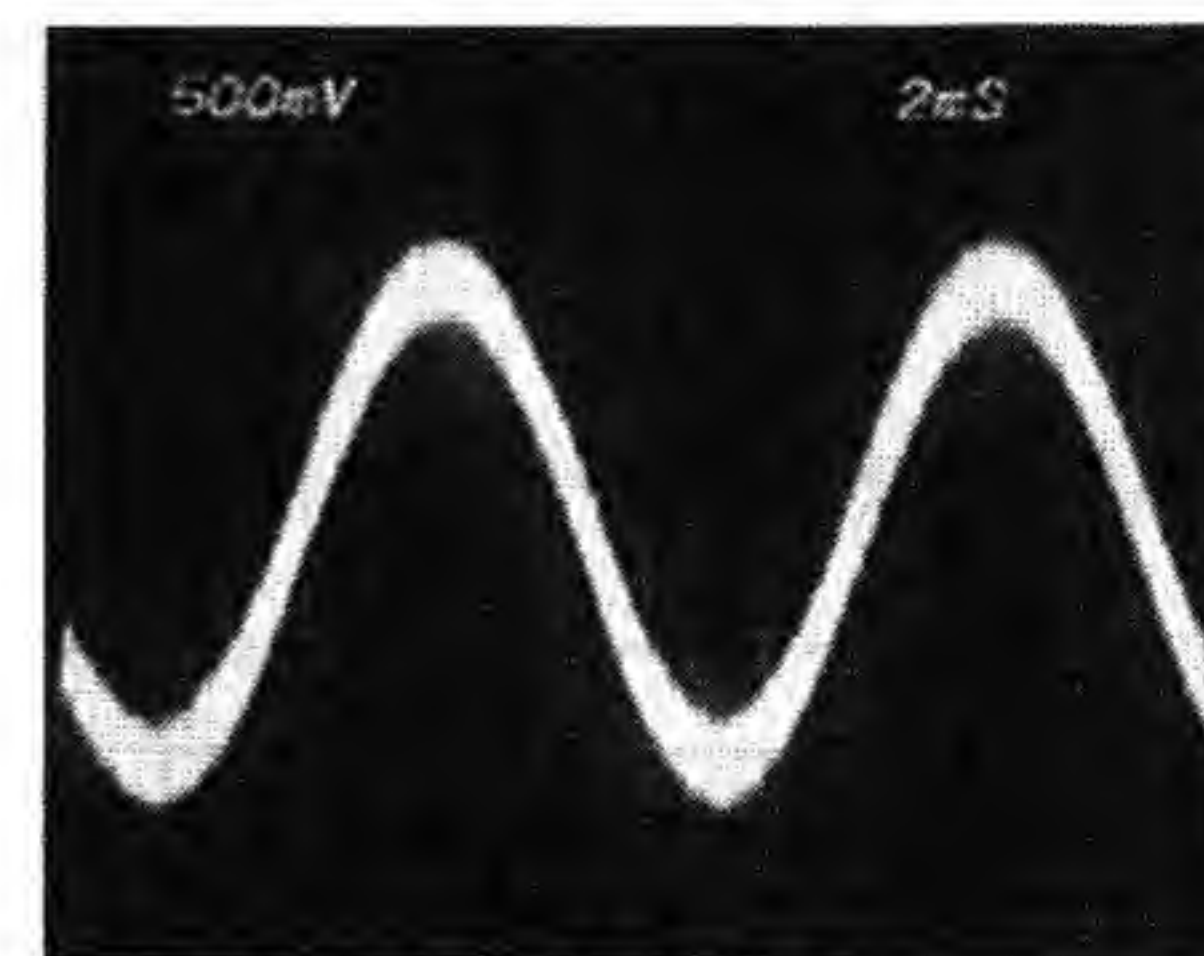
VR101 (CH 5)
VR201 (CH 6)
VR301 (CH 7)
VR401 (CH 8)

3-4-2. DAC MSB ADJUSTMENT

- 1) Press the "MARK/#" and "NAME" buttons at the same time then press the "-/▷" button to set the default values. Press the EDIT SAMPLE button. Next use the DATA knob to select "SINE", then press the [REC 2] F3/C button. Connect the audio signal generator to the LEFT input and sample a 100Hz sine wave. Adjust the signal level so that the output is -20dBm. Select "tim: s" with the CURSOR knob, then select "10.00" with the DATA knob. Next press the [ARM] F8/H button to sample a 100Hz tone.
- 2) Press the EDIT PROGRAM button, then press the [OUT] F4/D button. Select "loudness" with the CURSOR knob and press the ENT/PLAY button. Set the output to -60dBm with the DATA knob.
- 3) Adjust the VR102 (LEFT), VR202 (RIGHT), VR302 (SEND) on AD PCB so that the waveform becomes a continuous sine wave at -60dBm output level.



INCORRECT



CORRECT

Fig. 3-12

- 4) Select "mono out" with the CURSOR knob. Use the DATA knob to select channels between CH1-CH8 and adjust the appropriate VR (refer to following list) so that the waveform of each channel becomes a continuous sine wave at -60dBm output level.

On VOICE 1 PCB:

VR102 (CH1)
VR202 (CH2)
VR302 (CH3)
VR402 (CH4)

On VOICE 2 PCB:

VR102 (CH5)
VR202 (CH6)
VR302 (CH7)
VR402 (CH8)

IV. PARTS LIST

ATTENTION

- 1. When placing an order for parts, be sure to list Part No., Model No. and the description of eachpart. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.
- 2. Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.
- 3. Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.

HOW TO USE THIS PARTS LIST

- 1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resis- tors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
- 2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly import- ant for service.
- 3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
- 4. How to read the Parts List.

a) Mechanism Block

2. HEAD BASE BLOCK

| Ref.No. | Part No. | Description |
|---------|---------------|--------------------|
| 1 | BH-T2023A320A | HEAD BASE BLOCK |
| 2 | HP-H2206A010A | HEAD R/P PR4-8FU C |
| 3 | ZS-477876 | PAN20×03STL CMT |
| 4 | ZS-536488 | BID20×08STL CMT |
| 5 | ZG-402895 | SP CS ANGLE ADJUST |

SP (Service Parts) Classification
This number corresponds with the individ ual parts index number in that figure.

The available PC Board Blocks are listed separately.

b) PC Board

6. MAIN PC BOARD

| Ref.No. | Part No. | Description |
|---------|-----------|------------------------------|
| IC1 | EI-324536 | IC HD14049BP |
| IC2 | EI-336801 | IC MB8841-564M |
| C1A | EC-338399 | C MMY V 223M 250AC [U,E,B,S] |
| C1B | EC-350949 | C MMY V 223M 250DC [J] |
| C1C | EC-338397 | C MMY V 223M 125AC [C,A] |
| X1 | EI-318384 | OSC X'TAL NC-18C |

Symbols for primary destination
[A] : AAL (U.S.A) [S] : SAA (Australia)
[B] : BEAB (England) [U] : U/T (Universal Area)
[C] : CSA (Canada)
[E] : CEE (Europe) [V] : VDE (W. Germany)
[J] : JPN (Japan) [Y] : Custom Version
SP (Service Parts) Classification
These reference symbols correspond with component symbols in the Schematic Diagrams.

WARNING

⚠ (*) INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

AVERTISSEMENT

⚠ (*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉDE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT.

1.RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

| Ref.No. | Part No. | Description |
|---------|-------------|------------------------------------|
| 1 | BB-393291J | FLOPPY DISK FD-235HF-270 |
| 2 | *BP-397454J | SW POW PMC50E4XULA 100/200 |
| 3 | *BT-396271J | TRANS POW S1100(C,A) |
| 4 | *BT-396272J | TRANS POW S1100(E,V,B,S) |
| 5 | *BT-396269J | TRANS POW S1100(J) |
| 6 | ED-359863 | D LED LN81CV-(LF) AK ORANGE |
| 7 | ED-330319 | D SILICON DBA10B 100/1.0A |
| 8 | ED-389834J | D SILICON DS135E-FB2 F12 100/1 |
| 9 | ED-301911 | D SILICON H DS448 |
| 10 | ED-344280 | D SILICON H GMA-01-FY2 F05 |
| 11 | ED-378219 | DETECTOR PC 6N137 |
| 12 | *EF-358974 | FUSE BET T 250V 630MA [B] |
| 13 | *EF-601964 | FUSE SEMKO T 250V 1.60A [E,V,S] |
| 14 | *EF-601942 | FUSE SEMKO T 250V 630MA [E,V,S] |
| 15 | *EF-306949 | FUSE TSC A 250V 1.25A [J] |
| 16 | *EF-311839 | FUSE TSC A 250V 1.60A [J] |
| 17 | *EF-309392 | FUSE TSC 125V 1.25A [A,C] |
| 18 | *EF-308847 | FUSE TSC 125V 1.60A [A,C] |
| 19 | EH-388603J | COMP R EXB-RA13 221J |
| 20 | EH-388604J | COMP R EXB-RA13 331J |
| 21 | EH-397281J | FILTER EMI DSS306-54B 101M CUT |
| 22 | EH-397365J | FILTER EMI DSS306-55B 221M CUT |
| 23 | EH-397279J | FILTER EMI DSS310-55B 101M CUT |
| 24 | EH-396514J | FILTER LC LP 258BLV-5571N |
| 25 | EI-396532J | IC ADR6021 |
| 26 | EI-386308J | IC AK5326 |
| 27 | EI-397343J | IC AM27C256-150DC |
| 28 | EI-389142J | IC CD74AC541E |
| 29 | EI-396535J | IC CD74AC573E |
| 30 | EI-388792J | IC CXD1211P |
| 31 | EI-386343J | IC DSP56001FE-20 |
| 32 | EI-384770J | IC FLR-L6009 |
| 33 | EI-396503J | IC HD63B03RP |
| 34 | EI-389061J | IC HD74AC04P |
| 35 | EI-396537J | IC HD74AC08P |
| 36 | EI-396536J | IC HD74AC138P |
| 37 | EI-386293J | IC HD74AC139P |
| 38 | EI-386292J | IC HD74AC153P |
| 39 | EI-386290J | IC HD74AC157P |
| 40 | EI-389050J | IC HD74AC32P |
| 41 | EI-388711J | IC HD74HC00P |
| 42 | EI-387934J | IC HD74HC04P |
| 43 | EI-386303J | IC HD74HC08P |
| 44 | EI-393703J | IC HD74HC10P |
| 45 | EI-386289J | IC HD74HC138P |
| 46 | EI-393701J | IC HD74HC139P |
| 47 | EI-397093J | IC HD74HC157P |
| 48 | EI-396513J | IC HD74HC165P |
| 49 | EI-396510J | IC HD74HC173P |
| 50 | EI-393699J | IC HD74HC195P |
| 51 | EI-393697J | IC HD74HC259P |
| 52 | EI-393700J | IC HD74HC279P |
| 53 | EI-388709J | IC HD74HC32P |
| 54 | EI-393698J | IC HD74HC365P |
| 55 | EI-396512J | IC HD74HC368P |
| 56 | EI-396504J | IC HD74HC375P |
| 57 | EI-386295J | IC HD74HC541P |
| 58 | EI-388567J | IC HD74HC573P |
| 59 | EI-393702J | IC HD74HC595P |
| 60 | EI-387937J | IC HD74HC74P |
| 61 | EI-386694J | IC HM511000P-10S |
| 62 | EI-360954 | IC IR9311 |
| 63 | EI-384771J | IC ITP-L6009 |
| 64 | EI-379461 | IC LC3517ASL-15 |
| 65 | EI-378276 | IC LC7981 |
| 66 | EI-396550J | IC LM2940CT-12 |
| 67 | EI-396559J | IC LM7912CT |

| Ref.No. | Part No. | Description |
|---------|-------------|---|
| 68 | EI-386331J | IC MBM27C1001-20Z-G [BLANK ROM] |
| 69 | EI-396533J | IC MB81C4256-10PSZ-G |
| 70 | EI-379657J | IC MB89255A-P-G |
| 71 | EI-388602J | IC MB89352-P-G |
| 72 | EI-356160 | IC M5216P |
| 73 | EI-360043 | IC M5220P |
| 74 | EI-336995 | IC NJM78L05A |
| 75 | EI-396515J | IC NJM78L06A |
| 76 | EI-360772 | IC NJM79L05A |
| 77 | EI-396517J | IC NJM79L06A |
| 78 | EI-400855J | IC NJM79M05FA |
| 79 | EI-368612 | IC PCM56P |
| 80 | EI-397345J | IC PEEL18CV8PC-25 L6021 B |
| 81 | EI-397344J | IC PEEL18CV8PC-25 L6021 C |
| 82 | EI-396539J | IC PEEL18CV8PC-25S L6021A |
| 83 | EI-364253 | IC PST520D-2 |
| 84 | EI-402127J | IC SCOE10-512 9753-004 LSB |
| 85 | EI-402128J | IC SCOE11-512 9753-005 MSB |
| 86 | EI-324691 | IC TC4075BP |
| 87 | EI-400750J | IC TC55257BSPL-85 |
| 88 | EI-401064J | IC TC74AC393P |
| 89 | EI-384806J | IC TC74HC4053AP |
| 90 | EI-372890J1 | IC TC74HC574AP |
| 91 | EI-384769J | IC TE7730 |
| 92 | EI-379593 | IC UPD5200C |
| 93 | EI-386350J | IC UPD70216GF-10-3B9 |
| 94 | EI-396531J | IC UPD72068GF-3B9 |
| 95 | EI-397589J | IC.MBM27C1001-20Z-G V1.01-L |
| 96 | EI-397590J | IC.MBM27C1001-20Z-G V1.01-M |
| 97 | EI-396541J | OSC X'TAL HC-49/U 32.000000MHZ |
| 98 | EI-397320J | OSC X'TAL HC-49/US20.000000MHZ |
| 99 | EI-384779J | OSC X'TAL TD308C 33.8688MHZ |
| 100 | EL-728382J | EL BACK LIGHT |
| 101 | EM-382317J | IND LCD EDM-MPJ2COW |
| 102 | EO-390188J | TRANS PULSE CIT0723DIP-340B |
| 103 | EQ-348929 | RELAY SIG G5A-237P 2TR 12V |
| 104 | ER-325114 | R CB H S10 FS RDS 1/4W 330J |
| 105 | ER-382385J | R CB H S12 FS RDS 1/2W 100J |
| 106 | ER-367512 | R CB H S12 FS RDS 1/2W 121J |
| 107 | ER-397529J | R FUSE H S12 ERQ12AJ 1/2W 4R7J |
| 108 | ES-396542J | SW DIP SLIDE SSGM14 1-4-2N |
| 109 | ES-365943 | SW EWT-XDFK2550B |
| 110 | *ES-373020 | SW PUSH ESB-8283V [J,A,C] [POWER SW] |
| 111 | *ES-384812J | SW PUSH SDDSA3 02-1 [E,V,B,S] [POWER SW] |
| 112 | ES-384811J | SW SLIDE ESD-32243 [REC GAIN SW] |
| 113 | ES-349474 | SW TACT SKHHAM004A [SELECT PROG/1] |
| 114 | ET-397160J | TR 2SC3330 R,S,T,U,V |
| 115 | EV-384808J | VR ROTARY EWK-E9A027A14 A103X2 [REC VR] |

2. P.C BOARD BLOCK

| Ref.No. | Part No. | Description |
|---------|---------------|--------------------------|
| 1 | BA-L6021A030A | PC CPU BLK S1100 |
| 2 | BA-L6021A040A | PC AD BLK S1100 |
| 3 | BA-L6021A050A | PC VOICE1 BLK S1100 |
| 4 | BA-L6021A060A | PC VOICE2 BLK S1100 |
| 5 | BA-L6021A070A | PC DSP BLK S1100 |
| 6 | BA-L6021A080A | PC PANEL BLK S1100 |
| 7 | BA-L6021A100A | PC SMPTE BLK S1100 |
| 8 | BA-L6021A110A | PC SCSI BLK S1100 |
| 9A | BA-L6021A020A | PC(#) FILT BLK S1100(J) |
| 9B | BA-L6021A020B | PC(#) FILT BLK S1100(E) |
| 10 | BA-L6009A020A | PC MEMORY BLK S1000 |

PC (#) FILT BLK CONSISTS OF FOLLOWING P.C BOARD.

- POWER SUPPLY P.C BOARD
- REC GAIN P.C BOARD
- FILTER P.C BOARD
- DISPLAY VR P.C BOARD
- INPUT JACK P.C BOARD
- POWER SW P.C BOARD
- VR P.C BOARD

3. CPU P.C BOARD

| Ref.No. | Part No. | Description |
|---------|------------|------------------------------------|
| D8 | ED-344280 | D SILICON H GMA-01-FY2 F05 |
| D9 | ED-344280 | D SILICON H GMA-01-FY2 F05 |
| FL1 | EH-397279J | FILTER EMI DSS310-55B 101M CUT |
| FL2 | EH-397279J | FILTER EMI DSS310-55B 101M CUT |
| FL3 | EH-397279J | FILTER EMI DSS310-55B 101M CUT |
| FL4 | EH-397279J | FILTER EMI DSS310-55B 101M CUT |
| FL5 | EH-397365J | FILTER EMI DSS306-55B 221M CUT |
| FL6 | EH-397365J | FILTER EMI DSS306-55B 221M CUT |
| FL7 | EH-397281J | FILTER EMI DSS306-54B 101M CUT |
| FL14 | EH-397279J | FILTER EMI DSS310-55B 101M CUT |
| IB1 | EH-397364J | COMP C EXF-P12F101M |
| IC1 | EI-386350J | IC UPD70216GF-10-3B9 |
| IC2 | EI-384769J | IC TE7730 |
| IC3 | EI-396531J | IC UPD72068GF-3B9 |
| IC4 | EI-384771J | IC ITP-L6009 |
| IC5 | EI-384770J | IC FLR-L6009 |
| IC6 | EI-396532J | IC ADR6021 |
| IC7 | EI-378276 | IC LC7981 |
| IC8 | EI-388792J | IC CXD1211P |
| IC9 | EI-379657J | IC MB89255A-P-G |
| IC10 | EI-397589J | IC.MBM27C1001-20Z-G V1.01-L |
| IC10A | EI-386331J | IC MBM27C1001-20Z-G [BLANK ROM] |
| IC11 | EI-397590J | IC.MBM27C1001-20Z-G V1.01-M |
| IC11A | EI-386331J | IC MBM27C1001-20Z-G [BLANK ROM] |
| IC12 | EI-402127J | IC SCOE10-512 9753-004 LSB |
| IC13 | EI-402128J | IC SCOE11-512 9753-005 MSB |
| IC14 | EI-379461 | IC LC3517ASL-15 |
| IC15 | EI-364253 | IC PST520D-2 |
| IC18 | EI-396533J | IC MB81C4256-10PSZ-G |
| IC19 | EI-396533J | IC MB81C4256-10PSZ-G |
| IC20 | EI-396533J | IC MB81C4256-10PSZ-G |
| IC21 | EI-396533J | IC MB81C4256-10PSZ-G |
| IC22 | EI-386290J | IC HD74AC157P |
| IC23 | EI-386290J | IC HD74AC157P |
| IC24 | EI-386292J | IC HD74AC153P |
| IC25 | EI-387937J | IC HD74HC74P |
| IC26 | EI-393699J | IC HD74HC195P |
| IC27 | EI-401064J | IC TC74AC393P |
| IC28 | EI-393698J | IC HD74HC365P |
| IC29 | EI-393697J | IC HD74HC259P |
| IC30 | EI-386289J | IC HD74HC138P |
| IC31 | EI-397093J | IC HD74HC157P |
| IC32 | EI-387937J | IC HD74HC74P |
| IC33 | EI-393702J | IC HD74HC595P |
| IC34 | EI-393702J | IC HD74HC595P |
| IC35 | EI-393698J | IC HD74HC365P |
| IC36 | EI-393700J | IC HD74HC279P |
| IC37 | EI-393701J | IC HD74HC139P |
| IC38 | EI-396535J | IC CD74AC573E |
| IC39 | EI-388567J | IC HD74HC573P |
| IC40 | EI-388567J | IC HD74HC573P |
| IC41 | EI-396536J | IC HD74AC138P |
| IC42 | EI-389142J | IC CD74AC541E |
| IC43 | EI-389142J | IC CD74AC541E |
| IC44 | EI-393703J | IC HD74HC10P |
| IC45 | EI-388709J | IC HD74HC32P |
| IC46 | EI-388709J | IC HD74HC32P |
| IC47 | EI-388711J | IC HD74HC00P |
| IC48 | EI-386303J | IC HD74HC08P |
| IC49 | EI-387934J | IC HD74HC04P |
| IC50 | EI-389061J | IC HD74AC04P |
| IC51 | EI-396537J | IC HD74AC08P |
| IC52 | EI-389050J | IC HD74AC32P |
| IC53 | EI-389061J | IC HD74AC04P |
| IC54 | EI-396539J | IC PEEL18CV8PC-25S L6021A |
| J101 | EJ-364256 | DIN J M1704 3P [MIDI] |
| P100 | EJ-384780J | SOCKET 64S-6033-0431-2 64P |
| P101 | EJ-384780J | SOCKET 64S-6033-0431-2 64P |
| P102 | EJ-384780J | SOCKET 64S-6033-0431-2 64P |
| P103 | EJ-384780J | SOCKET 64S-6033-0431-2 64P |
| P104 | EJ-384780J | SOCKET 64S-6033-0431-2 64P |
| P105 | EJ-384780J | SOCKET 64S-6033-0431-2 64P |
| P106 | EJ-384780J | SOCKET 64S-6033-0431-2 64P |
| P107 | EJ-384780J | SOCKET 64S-6033-0431-2 64P |
| P108 | EJ-384780J | SOCKET 64S-6033-0431-2 64P |
| P113 | EJ-365834 | PLUG RK-H341TD-0190 34P |
| P118 | EJ-365891 | PLUG RA-H261TD-0190 26P |

| Ref.No. | Part No. | Description |
|---------|------------|--------------------------------|
| P120 | EJ-365834 | PLUG RK-H341TD-0190 34P |
| P121 | EJ-365891 | PLUG RA-H261TD-0190 26P |
| P122 | EJ-365891 | PLUG RA-H261TD-0190 26P |
| PH1 | ED-378219 | DETECTOR PC 6N137 |
| R37 | ER-382385J | R CB H S12 FS RDS 1/2W 100J |
| R38 | ER-367512 | R CB H S12 FS RDS 1/2W 121J |
| R39 | ER-325114 | R CB H S10 FS RDS 1/4W 330J |
| SW1 | ES-396542J | SW DIP SLIDE SSGM14 1-4-2N |
| T1 | EO-390188J | TRANS PULSE CIT0723DIP-340B |
| TR1 | ET-397160J | TR 2SC3330 R,S,T,U,V |
| TR2 | ET-397160J | TR 2SC3330 R,S,T,U,V |
| X1 | EI-397320J | OSC X'TAL HC-49/US20.000000MHZ |
| X2 | EI-396541J | OSC X'TAL HC-49/U 32.000000MHZ |
| X3 | EI-384779J | OSC X'TAL TD308C 33.8688MHZ |

4. AD P.C BOARD

| Ref.No. | Part No. | Description |
|---------|------------|--------------------------------|
| D1 | ED-301911 | D SILICON H DS448 |
| D2 | ED-301911 | D SILICON H DS448 |
| D3 | ED-301911 | D SILICON H DS448 |
| D4 | ED-301911 | D SILICON H DS448 |
| D401 | ED-301911 | D SILICON H DS448 |
| FL3 | EH-397365J | FILTER EMI DSS306-55B 221M CUT |
| FL4 | EH-397365J | FILTER EMI DSS306-55B 221M CUT |
| FL101 | EH-396514J | FILTER LC LP 258BLV-5571N |
| FL201 | EH-396514J | FILTER LC LP 258BLV-5571N |
| FL301 | EH-396514J | FILTER LC LP 258BLV-5571N |
| IC1 | EI-360043 | IC M5220P |
| IC2 | EI-360043 | IC M5220P |
| IC3 | EI-360043 | IC M5220P |
| IC4 | EI-360043 | IC M5220P |
| IC5 | EI-360043 | IC M5220P |
| IC6 | EI-386308J | IC AK5326 |
| IC7 | EI-336995 | IC NJM78L05A |
| IC8 | EI-360772 | IC NJM79L05A |
| IC9 | EI-336995 | IC NJM78L05A |
| IC10 | EI-336995 | IC NJM78L05A |
| IC11 | EI-336995 | IC NJM78L05A |
| IC12 | EI-396515J | IC NJM78L06A |
| IC14 | EI-360772 | IC NJM79L05A |
| IC15 | EI-396517J | IC NJM79L06A |
| IC23 | EI-360772 | IC NJM79L05A |
| IC101 | EI-368612 | IC PCM56P |
| IC102 | EI-384806J | IC TC74HC4053AP |
| IC103 | EI-360043 | IC M5220P |
| IC104 | EI-360043 | IC M5220P |
| IC105 | EI-360043 | IC M5220P |
| IC201 | EI-368612 | IC PCM56P |
| IC202 | EI-384806J | IC TC74HC4053AP |
| IC205 | EI-360043 | IC M5220P |
| IC301 | EI-368612 | IC PCM56P |
| IC302 | EI-384806J | IC TC74HC4053AP |
| IC303 | EI-360043 | IC M5220P |
| IC401 | EI-356160 | IC M5216P |
| IC402 | EI-379593 | IC UPD5200C |
| J101 | EJ-364322 | PHONE J 2P HLJ0520-110 W/NUT |
| J201 | EJ-364322 | PHONE J 2P HLJ0520-110 W/NUT |
| J301 | EJ-364322 | PHONE J 2P HLJ0520-110 W/NUT |
| J401 | EJ-353031 | PHONE J 3P HLJ0520-010 |
| J501 | EJ-379523 | PHONE J 3P HLJ4305-3080 S.NUT |
| R407 | ER-321619 | R OMF H S15 FS 1W 101J |
| R408 | ER-321619 | R OMF H S15 FS 1W 101J |
| RL401 | EQ-348929 | RELAY SIG G5A-237P 2TR 12V |
| TR401 | ET-397160J | TR 2SC3330 R,S,T,U,V |
| VR101 | EV-379061 | R S-FIX H PK50 0.50W 104 |
| VR102 | EV-379061 | R S-FIX H PK50 0.50W 104 |
| VR201 | EV-379061 | R S-FIX H PK50 0.50W 104 |
| VR202 | EV-379061 | R S-FIX H PK50 0.50W 104 |
| VR301 | EV-379061 | R S-FIX H PK50 0.50W 104 |
| VR302 | EV-379061 | R S-FIX H PK50 0.50W 104 |

5. VOICE (1),(2) P.C BOARD

| Ref.No. | Part No. | Description |
|---------|------------|------------------------------|
| FL101 | EH-396514J | FILTER LC LP 258BLV-5571N |
| FL201 | EH-396514J | FILTER LC LP 258BLV-5571N |
| FL301 | EH-396514J | FILTER LC LP 258BLV-5571N |
| FL401 | EH-396514J | FILTER LC LP 258BLV-5571N |
| IC1 | EI-336995 | IC NJM78L05A |
| IC2 | EI-400855J | IC NJM79M05FA |
| IC3 | EI-336995 | IC NJM78L05A |
| IC4 | EI-400855J | IC NJM79M05FA |
| IC5 | EI-396515J | IC NJM78L06A |
| IC6 | EI-396517J | IC NJM79L06A |
| IC101 | EI-368612 | IC PCM56P |
| IC102 | EI-384806J | IC TC74HC4053AP |
| IC103 | EI-360043 | IC M5220P |
| IC104 | EI-360043 | IC M5220P |
| IC201 | EI-368612 | IC PCM56P |
| IC202 | EI-384806J | IC TC74HC4053AP |
| IC301 | EI-368612 | IC PCM56P |
| IC302 | EI-384806J | IC TC74HC4053AP |
| IC303 | EI-360043 | IC M5220P |
| IC304 | EI-360043 | IC M5220P |
| IC401 | EI-368612 | IC PCM56P |
| IC402 | EI-384806J | IC TC74HC4053AP |
| J101 | EJ-364322 | PHONE J 2P HLJ0520-110 W/NUT |
| J201 | EJ-364322 | PHONE J 2P HLJ0520-110 W/NUT |
| J301 | EJ-364322 | PHONE J 2P HLJ0520-110 W/NUT |
| J401 | EJ-364322 | PHONE J 2P HLJ0520-110 W/NUT |
| VR101 | EV-379061 | R S-FIX H PK50 0.50W 104 |
| VR102 | EV-379061 | R S-FIX H PK50 0.50W 104 |
| VR201 | EV-379061 | R S-FIX H PK50 0.50W 104 |
| VR202 | EV-379061 | R S-FIX H PK50 0.50W 104 |
| VR301 | EV-379061 | R S-FIX H PK50 0.50W 104 |
| VR302 | EV-379061 | R S-FIX H PK50 0.50W 104 |
| VR401 | EV-379061 | R S-FIX H PK50 0.50W 104 |
| VR402 | EV-379061 | R S-FIX H PK50 0.50W 104 |

6. DSP P.C BOARD

| Ref.No. | Part No. | Description |
|---------|-------------|--------------------------------|
| IC1 | EI-386343J | IC DSP56001FE-20 |
| IC2 | EI-400750J | IC TC55257BSPL-85 |
| IC3 | EI-400750J | IC TC55257BSPL-85 |
| IC4 | EI-400750J | IC TC55257BSPL-85 |
| IC5 | EI-372890J1 | IC TC74HC574AP |
| IC6 | EI-388567J | IC HD74HC573P |
| IC7 | EI-372890J1 | IC TC74HC574AP |
| IC8 | EI-386295J | IC HD74HC541P |
| IC9 | EI-400750J | IC TC55257BSPL-85 |
| IC10 | EI-400750J | IC TC55257BSPL-85 |
| IC11 | EI-400750J | IC TC55257BSPL-85 |
| IC12 | EI-396510J | IC HD74HC173P |
| IC13 | EI-396504J | IC HD74HC375P |
| IC14 | EI-396512J | IC HD74HC368P |
| IC15 | EI-393702J | IC HD74HC595P |
| IC16 | EI-393702J | IC HD74HC595P |
| IC17 | EI-396513J | IC HD74HC165P |
| IC18 | EI-396513J | IC HD74HC165P |
| IC19 | EI-396513J | IC HD74HC165P |
| IC20 | EI-396513J | IC HD74HC165P |
| IC21 | EI-386293J | IC HD74AC139P |
| IC22 | EI-397345J | IC PEEL18CV8PC-25 L6021 B |
| IC23 | EI-397344J | IC PEEL18CV8PC-25 L6021 C |
| J1 | EJ-384790J | PLUG 64P-6033-0431-0 64P |
| X1 | EI-397320J | OSC X'TAL HC-49/US20.000000MHZ |

7. PANEL P.C BOARD

| Ref.No. | Part No. | Description |
|---------|------------|---------------------------------------|
| D1 | ED-359863 | D LED LN81CV-(LF) AK ORANGE |
| D2 | ED-359863 | D LED LN81CV-(LF) AK ORANGE |
| D3 | ED-359863 | D LED LN81CV-(LF) AK ORANGE |
| D4 | ED-359863 | D LED LN81CV-(LF) AK ORANGE |
| D5 | ED-359863 | D LED LN81CV-(LF) AK ORANGE |
| D6 | ED-359863 | D LED LN81CV-(LF) AK ORANGE |
| D7 | ED-359863 | D LED LN81CV-(LF) AK ORANGE |
| D8 | ED-359863 | D LED LN81CV-(LF) AK ORANGE |
| SR1 | EH-384815J | COMP R RKC1/8B12 103J |
| SR2 | EH-384817J | COMP R RKC1/8B8 102J |
| SW1 | ES-349474 | SW TACT SKHHAM004A [SELECT PROG/1] |
| SW2 | ES-349474 | SW TACT SKHHAM004A [F1/A] |
| SW3 | ES-349474 | SW TACT SKHHAM004A [3/Y] |
| SW4 | ES-349474 | SW TACT SKHHAM004A [-/] |
| SW5 | ES-349474 | SW TACT SKHHAM004A [EDIT SAMPLE/J] |
| SW6 | ES-349474 | SW TACT SKHHAM004A [F2/B] |
| SW7 | ES-349474 | SW TACT SKHHAM004A [NAME] |
| SW8 | ES-349474 | SW TACT SKHHAM004A [ENT/PLAY] |
| SW9 | ES-349474 | SW TACT SKHHAM004A [EDIT/PROG/K] |
| SW10 | ES-349474 | SW TACT SKHHAM004A [F3/C] |
| SW11 | ES-349474 | SW TACT SKHHAM004A [7/Q] |
| SW12 | ES-349474 | SW TACT SKHHAM004A [4/T] |
| SW13 | ES-349474 | SW TACT SKHHAM004A [MIDI/L] |
| SW14 | ES-349474 | SW TACT SKHHAM004A [F4/D] |
| SW15 | ES-349474 | SW TACT SKHHAM004A [8/R] |
| SW16 | ES-349474 | SW TACT SKHHAM004A [5/U] |
| SW17 | ES-349474 | SW TACT SKHHAM004A [DISK/M] |
| SW18 | ES-349474 | SW TACT SKHHAM004A [F5/E] |
| SW19 | ES-349474 | SW TACT SKHHAM004A [9/S] |
| SW20 | ES-349474 | SW TACT SKHHAM004A [6/V] |
| SW21 | ES-349474 | SW TACT SKHHAM004A [MASTER TUNE/N] |
| SW22 | ES-349474 | SW TACT SKHHAM004A [F6/F] |
| SW23 | ES-349474 | SW TACT SKHHAM004A [MARK/-] |
| SW24 | ES-349474 | SW TACT SKHHAM004A [JUMP/*] |
| SW25 | ES-349474 | SW TACT SKHHAM004A [DRUM/O] |
| SW26 | ES-349474 | SW TACT SKHHAM004A [F7/G] |
| SW27 | ES-349474 | SW TACT SKHHAM004A [2/X] |
| SW28 | ES-349474 | SW TACT SKHHAM004A [+/-] |
| SW29 | ES-349474 | SW TACT SKHHAM004A [UTILITY/P] |
| SW30 | ES-349474 | SW TACT SKHHAM004A [F8/H] |
| SW31 | ES-349474 | SW TACT SKHHAM004A [1/W] |
| SW32 | ES-349474 | SW TACT SKHHAM004A [0/Z] |

8. SMPTE P.C BOARD

| Ref.No. | Part No. | Description |
|---------|------------|---|
| FL1 | EH-397365J | FILTER EMI DSS306-55B 221M CUT |
| FL2 | EH-397365J | FILTER EMI DSS306-55B 221M CUT |
| FL3 | EH-397365J | FILTER EMI DSS306-55B 221M CUT |
| FL4 | EH-397365J | FILTER EMI DSS306-55B 221M CUT |
| IC1 | EI-397343J | IC AM27C256-150DC |
| IC2 | EI-360954 | IC IR9311 |
| IC3 | EI-388711J | IC HD74HC00P |
| IC4 | EI-396503J | IC HD63B03RP |
| IC5 | EI-386289J | IC HD74HC138P |
| IC6 | EI-379657J | IC MB89255A-P-G |
| IC7 | EI-396504J | IC HD74HC375P |
| IC8 | EI-324691 | IC TC4075BP |
| J1 | EJ-390189J | PHONE J 3P HLJ0544-010 W/NUT [SMPTE IN] |
| J2 | EJ-390189J | PHONE J 3P HLJ0544-010 W/NUT [SMPTE OUT] |
| P1 | EJ-384790J | PLUG 64P-6033-0431-0 64P |

9. SCSI P.C BOARD

| Ref.No. | Part No. | Description |
|---------|------------|-------------------------------------|
| D1 | ED-389834J | D SILICON DS135E-FB2 F12 100/1 |
| D2 | ED-301911 | D SILICON H DS448 |
| FR1 | EH-388603J | COMP R EXB-RA13 221J |
| FR2 | EH-388603J | COMP R EXB-RA13 221J |
| FR3 | EH-388604J | COMP R EXB-RA13 331J |
| FR4 | EH-388604J | COMP R EXB-RA13 331J |
| IC1 | EI-388602J | IC MB89352-P-G |
| J1 | EJ-368452 | PLUG 57LE-40500-7700(D12) [SCSI] |
| P1 | EJ-384790J | PLUG 64P-6033-0431-0 64P |
| P2 | EJ-397342J | PLUG PS-50PE-D4LT1-B1 |

10. POWER SUPPLY P.C BOARD

| Ref.No. | Part No. | Description |
|---------|------------|---|
| D1 | ED-330319 | D SILICON DBA10B 100/1.0A |
| D2 | ED-389834J | D SILICON DS135E-FB2 F12 100/1 |
| D3 | ED-389834J | D SILICON DS135E-FB2 F12 100/1 |
| D4 | ED-389834J | D SILICON DS135E-FB2 F12 100/1 |
| D5 | ED-389834J | D SILICON DS135E-FB2 F12 100/1 |
| D6 | ED-344280 | D SILICON H GMA-01-FY2 F05 |
| D7 | ED-344280 | D SILICON H GMA-01-FY2 F05 |
| F2A | *EF-311839 | FUSE TSC A 250V 1.60A [J] |
| F2B | *EF-308847 | FUSE TSC 125V 1.60A [A,C] |
| F2C | *EF-601964 | FUSE SEMKO T 250V 1.60A [E,V,S] |
| F2D | *EF-601964 | FUSE SEMKO T 250V 1.60A [B] |
| F3A | *EF-311839 | FUSE TSC A 250V 1.60A [J] |
| F3B | *EF-308847 | FUSE TSC 125V 1.60A [A,C] |
| F3C | *EF-601964 | FUSE SEMKO T 250V 1.60A [E,V,S] |
| F3D | *EF-601964 | FUSE SEMKO T 250V 1.60A [B] |
| FL1 | EH-397365J | FILTER EMI DSS306-55B 221M CUT |
| FL2 | EH-397365J | FILTER EMI DSS306-55B 221M CUT |
| IC16 | EI-396550J | IC LM2940CT-12 |
| IC17 | EI-396559J | IC LM7912CT |
| J3 | EJ-386340J | SOCKET RECEPTACLE XLB3-32PCVM1 [DIGITAL OUT] |

11. REC GAIN SW P.C BOARD

| Ref.No. | Part No. | Description |
|---------|------------|-------------------------------------|
| SW3 | ES-384811J | SW SLIDE ESD-32243 [REC GAIN SW] |

12. FILTER P.C BOARD

| Ref.No. | Part No. | Description |
|---------|-------------|------------------------------------|
| F1A | *EF-306949 | FUSE TSC A 250V 1.25A [J] |
| F1B | *EF-309392 | FUSE TSC 125V 1.25A [A,C] |
| F1C | *EF-601942 | FUSE SEMKO T 250V 630MA [E,V,S] |
| F1D | *EF-358974 | FUSE BET T 250V 630MA [B] |
| L1 | *EO-389172J | COIL LF LF-4N 502 |

13. DISPLAY VR P.C BOARD

| Ref.No. | Part No. | Description |
|---------|------------|---|
| VR3 | EV-384810J | VR ROTARY EVH-CCA363B53 B502 [CONTRAST VR] |

14. INPUT JACK P.C BOARD

| Ref.No. | Part No. | Description |
|---------|-----------|---|
| J1 | EJ-379523 | PHONE J 3P HLJ4305-3080 S.NUT [REC IN L] |
| J2 | EJ-379523 | PHONE J 3P HLJ4305-3080 S.NUT [REC IN R] |

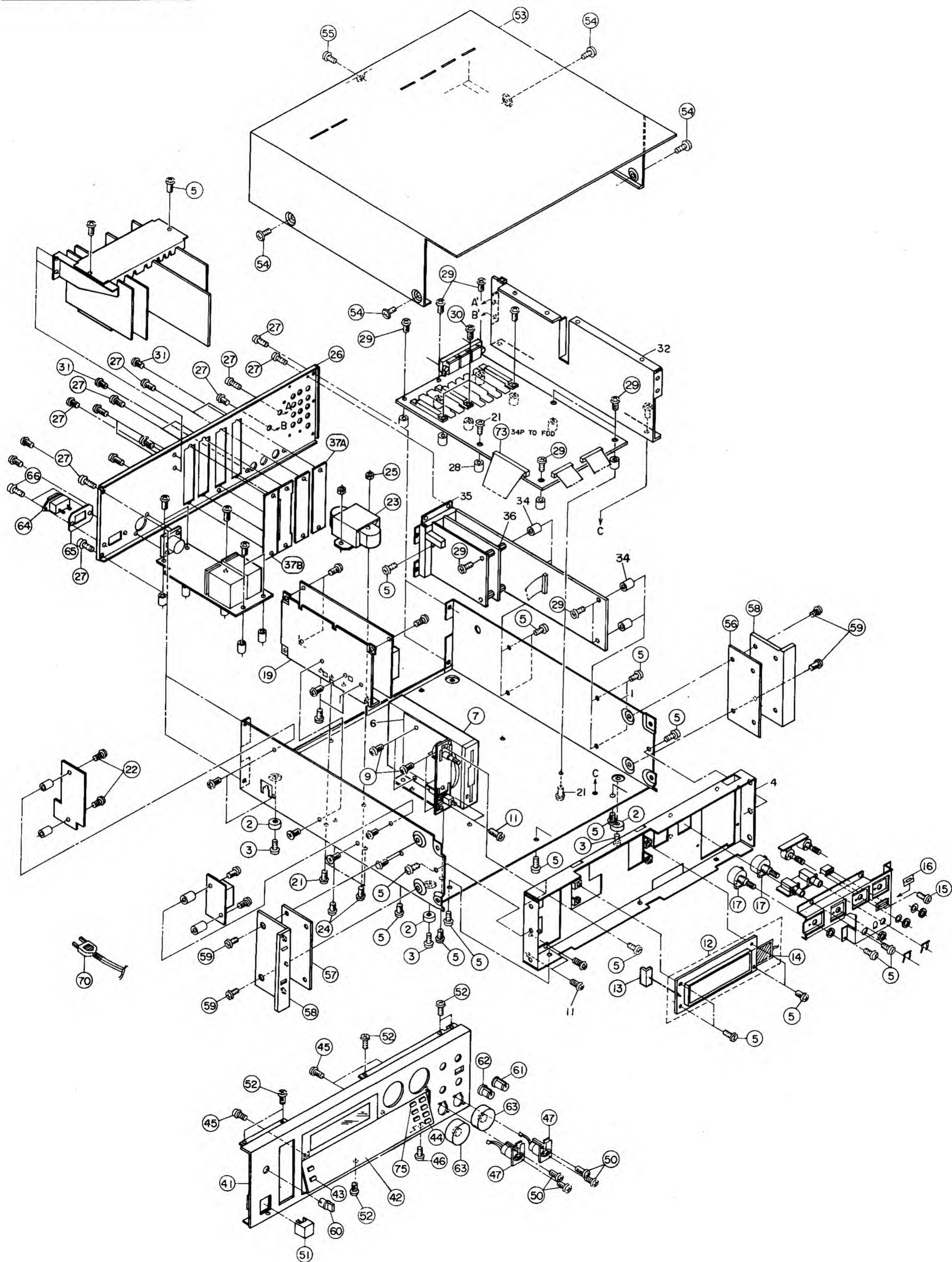
15. POWER SW P.C BOARD

| Ref.No. | Part No. | Description |
|---------|-------------|---|
| C1 | *EC-361942 | C CE V DNS103ZV V 103Z 400AC [E,V,B,S] |
| C2 | *EC-361942 | C CE V DNS103ZV V 103Z 400AC [E,V,B,S] |
| C3 | *EC-361942 | C CE V DNS103ZV V 103Z 400AC [J,A,C] |
| SW1 | *ES-384812J | SW PUSH SDDSA3 02-1 [E,V,B,S] [POWER SW] |
| SW2 | *ES-373020 | SW PUSH ESB-8283V [J,A,C] [POWER SW] |

16. VR P.C BOARD

| Ref.No. | Part No. | Description |
|---------|------------|--|
| VR1 | EV-384808J | VR ROTARY EWK-E9A027A14 A103X2 [REC VR] |
| VR2 | EV-384808J | VR ROTARY EWK-E9A027A14 A103X2 [OUT PUT VR] |

FINAL ASSEMBLY



PARTS LIST

17. MEMORY P.C BOARD

| Ref.No. | Part No. | Description |
|---------|------------|------------------|
| IC1 | EI-386694J | IC HM511000P-10S |
| IC2 | EI-386694J | IC HM511000P-10S |
| IC3 | EI-386694J | IC HM511000P-10S |
| IC4 | EI-386694J | IC HM511000P-10S |
| IC5 | EI-386694J | IC HM511000P-10S |
| IC6 | EI-386694J | IC HM511000P-10S |
| IC7 | EI-386694J | IC HM511000P-10S |
| IC8 | EI-386694J | IC HM511000P-10S |
| IC9 | EI-386694J | IC HM511000P-10S |
| IC10 | EI-386694J | IC HM511000P-10S |
| IC11 | EI-386694J | IC HM511000P-10S |
| IC12 | EI-386694J | IC HM511000P-10S |
| IC13 | EI-386694J | IC HM511000P-10S |
| IC14 | EI-386694J | IC HM511000P-10S |
| IC15 | EI-386694J | IC HM511000P-10S |
| IC16 | EI-386694J | IC HM511000P-10S |
| IC17 | EI-389142J | IC CD74AC541E |
| IC18 | EI-389142J | IC CD74AC541E |
| IC19 | EI-386295J | IC HD74HC541P |
| IC20 | EI-386295J | IC HD74HC541P |

18. INVERTOR P.C BOARD

| Ref.No. | Part No. | Description |
|---------|------------|--------------------------------|
| FR2 | ER-397529J | R FUSE H S12 ERQ12AJ 1/2W 4R7J |
| T1 | BT-390145J | TRANS PULSE NI05-05-5 |

19. FINAL ASSEMBLY

| Ref.No. | Part No. | Description |
|---------|-------------|------------------------------|
| 2 | SA-349332 | FOOT |
| 3 | ZS-344754 | ST PAN30X06STL CMT C080 |
| 5 | ZS-320906 | ST BR30X06STL CMT |
| 7 | BB-393291J | FLOPPY DISK FD-235HF-270 |
| 9 | ZS-323728 | BID30X05STL CMT |
| 11 | ZS-422076 | PAN30X05STL CMT |
| 12 | EM-382317J | IND LCD EDM-MPJ2COW |
| 13 | EJ-378269 | PLUG B10P-ER 10P |
| 14 | EL-728382J | EL BACK LIGHT |
| 15 | ZS-608095 | PAN20X05STL CMT |
| 16 | SZ-388412J | MASK SLIDE SW |
| 17 | ES-365943 | SW EWT-XDFK2550B |
| 19 | *BP-397454J | SW POW PMC50E4XULA 100/200 |
| 21 | ZS-417150 | PAN40X06STL CMT |
| 22 | ZS-379405 | BID30X06STL CMT |
| 23A | *BT-396269J | TRANS POW S1100(J) |
| 23B | *BT-396271J | TRANS POW S1100(C,A) |
| 23C | *BT-396272J | TRANS POW S1100(E,V,B,S) |
| 24 | ZS-345530 | ST BID30X08STL CMT |
| 25 | ZW-609434 | N FRANGE 30STL CMT |
| 26 | SP-396273J | PANEL REAR S1100 |
| 27 | ZS-345272 | ST BR30X06STL BNI |
| 29 | ZS-379405 | BID30X06STL CMT |
| 30 | ZS-421806 | PAN30X08STL CMT |
| 31 | ZS-350934 | PT BR30X08STL BNI |
| 37A | SC-384696J | COVER CONNECTOR(A) |
| 37B | SC-385427J | COVER CONNECTOR(B) |
| 41 | SP-396283J | PANEL FRONT S1100 PART |
| 42 | SP-400417J1 | PANEL FUNCTION(2) PART |
| 43 | SK-382418J1 | KNOB PUSH(A) |
| 44 | SK-400299J | KNOB PUSH(D) |
| 45 | ZS-323728 | BID30X05STL CMT |
| 46 | ZS-325495 | T2BR30X06STL CMT |
| 47 | EJ-384747J | SOCKET RECEPTACLE XLR-31-F77 |
| 50 | ZS-355590 | CTS26X06STL NI3 |
| 51 | SK-343017J | KNOB POWER (C) |
| 52 | ZS-345530 | ST BID30X08STL CMT |
| 53 | SP-401684J | COVER UPEER MASKING |
| 54 | ZS-341959 | ST BID40X06STL NI3 |
| 55 | ZS-319460 | T2BR30X06STL BZN PROJECTION |
| 56 | SC-384717J | COVER MOUNT(R) |
| 57 | SC-384718J | COVER MOUNT(L) |
| 58 | SH-362361 | HANDLE RACK |
| 59 | ZS-322570 | ST BID40X08STL NI3 |

| Ref.No. | Part No. | Description |
|---------|------------|---|
| 60 | SK-384814J | KNOB VOL-C |
| 61 | SK-386675J | KNOB SINGLE(2)PART |
| 62 | SK-386676J | KNOB SINGLE(3)PART |
| 63 | SK-384714J | KNOB CONTROL PART |
| 64A | *EJ-358633 | SOCKET INLET SOT-17 2P [J] |
| 64B | *EJ-358632 | SOCKET INLET SOT-16 3P [C,A,E,V,B,S] |
| 65 | MZ-385430J | HOLDER INLET |
| 66 | ZS-362534 | T2CTS30X10STL BNI |
| 70A | *EW-365947 | AC CORD 250 SKP210KS17B A J [J] |
| 70B | *EW-368420 | AC CORD200SKP30KS16 B AC [A,C] |
| 70C | *EW-368421 | AC CORD200SKP4819DKS16 B E [E,V] |
| 70D | *EW-368422 | AC CORD200 KS-116AGTBS [B] |
| 70E | *EW-368418 | AC CORD200SKP550KS16 B S [S] |
| 73 | EW-396261J | WIRE ASSY S1100 W904 34P |

NOTE:

Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

EXM 008

2. MEMORY P.C BOARD

| Ref.No. | Part No. | Description |
|---------|------------|--------------------------|
| IC1 | EI-394812J | IC HM514100ZP-10 |
| IC2 | EI-394812J | IC HM514100ZP-10 |
| IC3 | EI-394812J | IC HM514100ZP-10 |
| IC4 | EI-394812J | IC HM514100ZP-10 |
| IC5 | EI-394812J | IC HM514100ZP-10 |
| IC6 | EI-394812J | IC HM514100ZP-10 |
| IC7 | EI-394812J | IC HM514100ZP-10 |
| IC8 | EI-394812J | IC HM514100ZP-10 |
| IC9 | EI-394812J | IC HM514100ZP-10 |
| IC10 | EI-394812J | IC HM514100ZP-10 |
| IC11 | EI-394812J | IC HM514100ZP-10 |
| IC12 | EI-394812J | IC HM514100ZP-10 |
| IC13 | EI-394812J | IC HM514100ZP-10 |
| IC14 | EI-394812J | IC HM514100ZP-10 |
| IC15 | EI-394812J | IC HM514100ZP-10 |
| IC16 | EI-394812J | IC HM514100ZP-10 |
| IC17 | EI-389142J | IC CD74AC541E |
| IC18 | EI-389142J | IC CD74AC541E |
| IC19 | EI-386295J | IC HD74HC541P |
| IC20 | EI-386295J | IC HD74HC541P |
| J1 | EJ-384790J | PLUG 64P-6033-0431-0 64P |

ABBREVIATIONS FOR THE SERVICE MANUAL

| ABBREVIATION | EXPLANATION | ABBREVIATION | EXPLANATION |
|--------------|--------------------------------------|------------------|------------------------------|
| AMP (Amp) | AMPlifier | MINI | MINIum |
| BBD | Backet Brigade Diode | MIX | MIXer |
| BCD | Binary Code Decimal | MOD | MODulation |
| B.DOWN | Brake DOWN | M.WHEEL | Modulation WHEEL |
| B.UP | Back UP | OSC | OSCillator |
| CE | Chip Enable | RAM | Random Access Memory |
| CH | CHannel | RD | ReaD |
| COMP | COMParator | REG | REGulator |
| CONT | CONTrol | RESO | RESOnance |
| CV | Control Voltage | RL | ReLay |
| D/A | Digital to Analogue | ROM | Read Only Memory |
| EG | Envelope Generator | S/H | Sample and Hold |
| EXT | EXTernal | SW | SWitch |
| FREQ | FREQuency | THRU | THRoUgh |
| HPF | High Pass Filter | TRANS | TRANSpose |
| INH | INHibit | U | Upper |
| INT | INTerrupt | VA | Voltage Analog |
| INV | INVerter | VCA | Voltage Controlled Amplifier |
| L | Lower | VCF | Voltage Controlled Filter |
| LFO | Low Frequency Oscillator | VR | Variable Resistor |
| MAX | MAXimum | V _{REF} | REFerence Voltage |
| MEMO | MEMOry | WR | WRite |
| MIDI | Musical Instrument Digital Interface | | |

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